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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/866,092	05/23/2001	Mark Thomas McCormack	6136/54242 (25916-217)	5484

7590

08/19/2003

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EXAMINER

LEE, EUGENE

ART UNIT

PAPER NUMBER

2815

DATE MAILED: 08/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/866,092

Applicant(s)

MCCORMACK ET AL.

Examiner

Eugene Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 June 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the exposed portion of said second substrate surface includes a cavity (claim 25) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

3. Claim 17 is rejected under 35 U.S.C. 102(b) as being rejected by McClanahan et al. '397. McClanahan discloses (see, for example, FIG. 1) a multilayer circuit structure comprising layer (circuit board substrate) L6, metallization (integrated electronic component) 17, layer (first

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dielectric layer) L5, metallic layer 17, vias fills (via) 19, layer (second dielectric layer) L4 and via fills (opening) 19.

Regarding the metallization being construed as an integrated electronic component, see column 4, lines 48-53, wherein McClanahan states that the metallizations may be electronic components, i.e. resistors, inductors, capacitors.

4. Claims 17 thru 34 are rejected under 35 U.S.C. 102(e) as being anticipated by Swarup '154 B1. Swarup discloses (see, for example, FIG. 6B) a multilayer circuit structure comprising first substrate (circuit board substrate) 192, capacitor (first integrated electronic component) 38, second substrate (first dielectric layer) 204, dielectric bridge (metallic layer) 174, via hole (at least one via and opening) 160, third substrate (second dielectric layer) 208. Regarding claim 27, see column 11, lines 1-5. Regarding claim 30, see, for example, column 12, lines 18-21.

5. Claims 17, 27, 30, 33, and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Cole, Jr. et al. '589. Cole, Jr. discloses (see, for example, FIG. 5) a high density interconnect structure comprising a substrate (circuit board substrate) 12, chip (integrated electronic component) 16, layer (first dielectric layer) 26, metallization layer (metallic layer) 28, via hole (one via) 23, layer (second dielectric layer) 36, and via hole (opening) 33.

Response to Arguments

6. Applicant's arguments with respect to claims 17-34 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments filed 6/9/03 have been fully considered but they are not persuasive.

Regarding the Drawing Objection, FIG. 12 shows a cavity in the exposed portion of the first substrate surface, not the second substrate surface.

Regarding the applicant's argument on page 18 and 19 that the new limitation "prefabricated" differentiates the applicant's invention from the cited prior art, the Examiner respectfully disagrees. The limitation "prefabricated" in the limitation "prefabricated component" is a product-by-process limitation that does not structurally differentiate the applicant's invention from the cited prior art. Therefore, since the claims are directed towards product, the process limitation "prefabricated" will be afforded no patentable weight.

Regarding applicant's argument in the last paragraph of page 19 that element 12 is a metallization layer and not a substrate, element 26 is a metallization and not a dielectric layer, element 28 is a substrate and not a metallization layer, element 36 is a metallization layer and not a dielectric layer, the Examiner respectfully disagrees. In FIG. 5, Cole clearly discloses element 12 as a substrate, element 26 as a dielectric film KAPTON, element 28 as metallization layers, and element 36 as a dielectric film KAPTON.

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Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

INFORMATION ON HOW TO CONTACT THE USPTO

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eugene Lee whose telephone number is 703-305-5695. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C. Lee can be reached on 703-308-1690. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

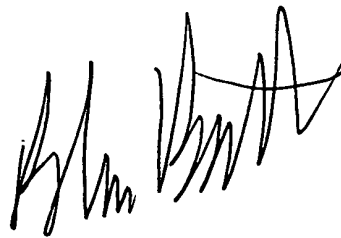
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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Eugene Lee
August 14, 2003

A handwritten signature in black ink, appearing to read 'B. William Baumeister', with a stylized, cursive script.

B. WILLIAM BAUMEISTER
PRIMARY EXAMINER